

(d) *Undesignated welding and burning areas.* All welding and burning, which cannot be done in an approved safe-welding area, shall be performed in compliance with the following:

(1) Prior to the commencement of any of these operations, the lessee's designated person in charge at the installation shall inspect the qualifications of the welder(s) to assure that the welder(s) is properly qualified in accordance with the approved qualification standards or requirements for welders. The designated person in charge and the welder(s) shall inspect the work area and area(s) at elevations below the work area where slag, sparks, or other hot materials could fall for potential fire and explosion hazards. After it has been determined that it is safe to proceed with the welding and burning operation, the designated person-in-charge shall issue a written authorization for the work.

(2) During these welding or burning operations, one or more persons shall be designated as a fire watch. The person(s) assigned as a fire watch shall have no other duties while actual welding or burning operations are in progress. If the operation is to be in an area which is not equipped with a gas detector, the fire watch shall also maintain a continuous surveillance with a portable gas detector during the welding and burning operation. The fire watch shall remain on duty for a period of 30 minutes after welding or burning operations have been completed.

(3) Prior to any of these operations, the fire watch shall have in their possession firefighting equipment in a usable condition.

(4) No welding or burning operation, other than approved hot tapping, shall be done on piping, containers, tanks, or other vessels which have contained a flammable substance unless the contents have been rendered inert and are determined to be safe for welding or burning by the designated person in charge.

(5) If drilling, well-completion, well-workover, or wireline operations are in progress, welding operations in other than approved safe-welding areas shall not be conducted unless the well(s) in the area where drilling, well-comple-

tion, well-workover, or wireline operations are in progress contain non-combustible fluids and the entry of formation hydrocarbons into the wellbore is precluded.

(6) If welding or burning operations are conducted in or within 10 feet of a well-bay or production area, all producing wells in the well-bay or production area shall be shut in at the surface safety valve.

#### **§ 250.403 Electrical equipment.**

The following requirements shall be applicable to all electrical equipment on all platforms, artificial islands, fixed structures, and their facilities:

(a) All engines with electrical ignition systems shall be equipped with a low-tension ignition system designed and maintained to minimize the release of sufficient electrical energy to cause ignition of an external, combustible mixture or substance.

(b) All areas shall be classified in accordance with API RP 500, Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities.

(c) All electrical installations shall be made in accordance with API RP 14F, Design and Installation of Electrical Systems for Offshore Production Platforms, except sections 7.4, Emergency Lighting and 9.4, Aids to Navigation Equipment.

(d) Maintenance of electrical systems shall be by personnel who are trained and experienced with the area classifications, distribution system, performance characteristics and operation of the equipment, and with the hazards involved.

[53 FR 10690, Apr. 1, 1988, as amended at 54 FR 50616, Dec. 8, 1989; 61 FR 60024, Nov. 26, 1996. Redesignated at 63 FR 29479, May 29, 1998]

#### **§ 250.404 Well casing and cementing.**

(a) *General requirements.* (1) For the purpose of this subpart, the casing strings in order of normal installation are as follows:

- (i) Drive or structural,
- (ii) Conductor,
- (iii) Surface,
- (iv) Intermediate, and
- (v) Production casing.